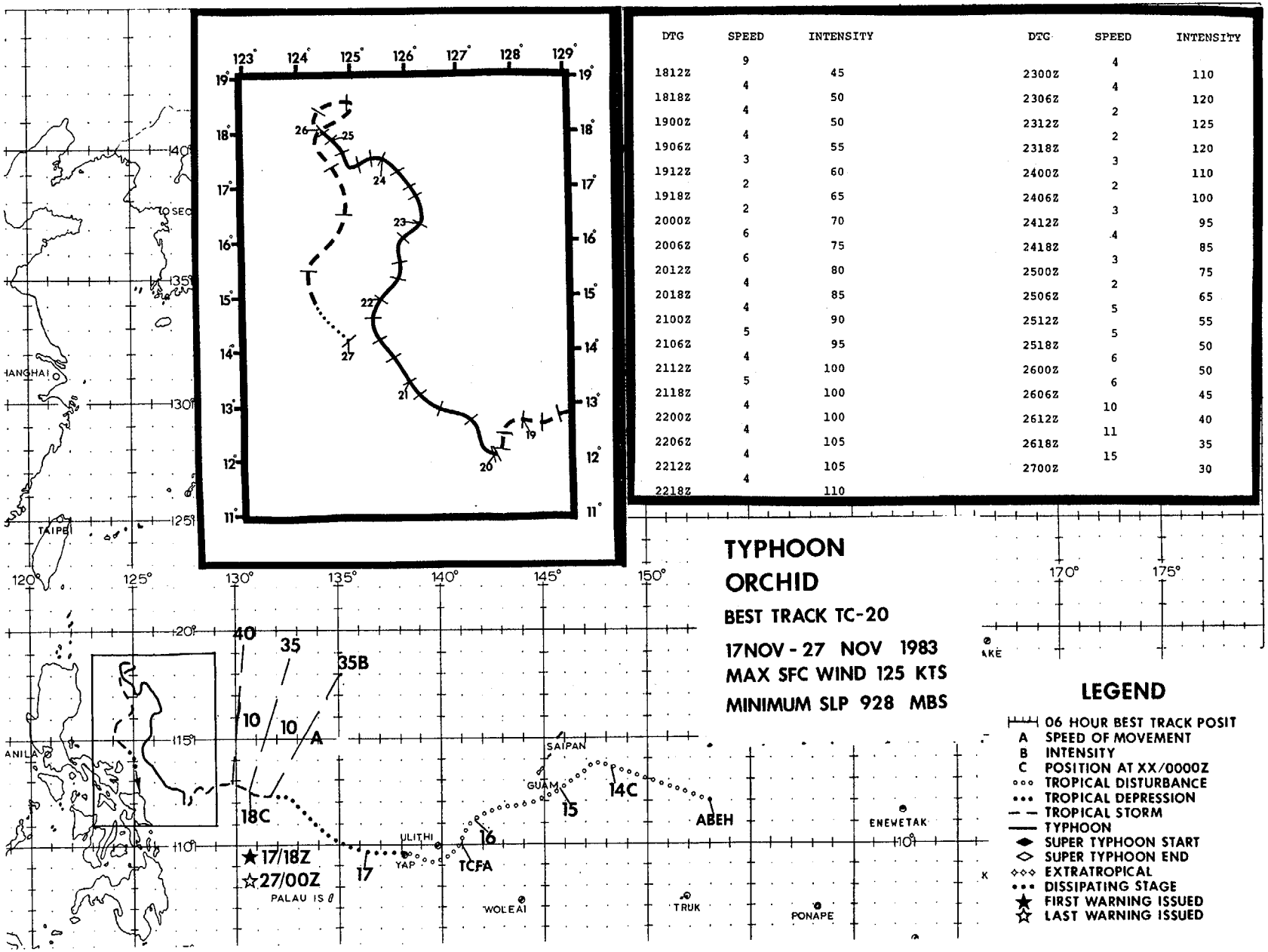

DTG	SPEED	INTENSITY	DTG	SPEED	INTENSITY
	9			4	
1812Z		45	2300Z		110
	4			4	
1818Z		50	2306Z		120
	4			2	
1900Z		50	2312Z		125
	4			2	
1906Z		55	2318Z		120
	3			3	
1912Z		60	2400Z		110
	2			2	
1918Z		65	2406Z		100
	2			3	
2000Z		70	2412Z		95
	6			4	
2006Z		75	2418Z		85
	6			3	
2012Z		80	2500Z		75
	4			2	
2018Z		85	2506Z		65
	4			5	
2100Z		90	2512Z		55
	5			5	
2106Z		95	2518Z		50
	4			6	
2112Z		100	2600Z		50
	5			6	
2118Z		100	2606Z		45
	4			10	
2200Z		100	2612Z		40
	4			11	
2206Z		105	2618Z		35
	4			15	
2212Z		105	2700Z		30
	4				
2218Z		110			

Typhoon Orchid was the first of three tropical cyclones to develop in the western North Pacific during mid-November. This flurry of activity in the northern hemisphere was accompanied by the development of two tropical cyclones in the southern hemisphere, Tropical Cyclone 04S and Tropical Cyclone 05S (Quenton). The establishment of strong low-level westerlies at low latitudes on both sides of the equator preceded the onset of activity.

Orchid developed from a tropical disturbance which was first detected on the 12th of November as an area of convective activity located 300 nm (556 km) north of Truk (WMO 91334). The disturbance moved southwestward over the next three days as its convection increased in intensity and size. The first aircraft reconnaissance mission to investigate the disturbance was conducted on 15 November while the disturbance was located 170 nm (315 km) southwest of Guam (WMO 91212). This mission did not succeed in closing off a circulation and indicated that the disturbance was a broad area of low pressure (MSLP of 1004 mb) with maximum sustained surface winds of 25 kt (13 m/s). Later satellite imagery indicated that the disturbance was becoming better organized. An increase in convective activity, accompanied by the development of an upper-level anticyclone led to the issuance of a TCFA at 0300Z on the 16th. A second aircraft reconnaissance mission, on the 17th, was also not able to close off a circulation and provided data indicating that there was little change in intensity from the previous mission. This information did not correlate with observations from satellite imagery which continued to show a marked increase in the organization of the system. Post-analysis revealed that the aircraft was investigating features not associated with the dominant circulation to the northwest. The first warning on Orchid as a tropical storm was issued at 1800Z on the 17th when intensity estimation by satellite indicated that maximum sustained winds were in the 40-45 kt (21-23 m/s) range.

Orchid's movement from this point on was highly erratic. Strong low-level northeasterlies were opposed at higher levels by southwesterly flow which resulted in a continual conflict in steering. This complex environment was further complicated by the development of Typhoon Percy in the South China Sea (Figure 3-20-1). The separation distance between Orchid and Percy remained constant at 850 nm (1574 km) throughout the period of their coexistence. Although there was not a Fujiwhara interaction observed in this case, the possibility of interaction was under constant consideration by JTWC forecasters.

In spite of the effects of vertical shear experienced by Orchid and Percy, both systems achieved typhoon intensity. Orchid's maximum intensity of 125 kt (64 m/s) was accompanied by an MSLP of 928 mb measured by aircraft on the 23rd. However, both systems eventually succumbed to the effects of vertical shear. Two days after reaching maximum intensity, Orchid had weakened significantly. Although maximum sustained winds were 55 kt (28 m/s), MSLP was up to 995 mb. Winds associated with Orchid were higher than might be expected for a circulation with such a high central pressure because ambient low-level flow was particularly strong. Gale force northeasterlies on the northwest side of Orchid's circulation augmented the winds on that side, resulting in a band of high winds which were much stronger than the winds on the southeast side of the circulation.

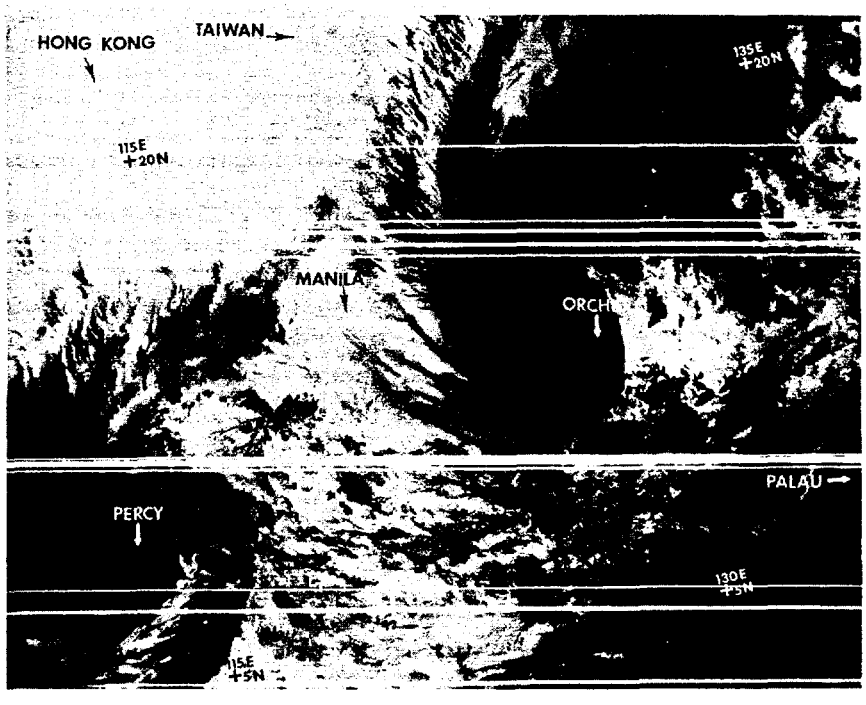

Figure 3-20-1. Orchid as a tropical storm (right) and the disturbance which developed into Typhoon Percy (left) (1823362 November NOAA 8 infrared imagery).

As Orchid weakened, the influence of low-level steering became greater and the circulation moved southward. By the time of the final warning, Orchid was located 40 nm (74 km) west of the position it had occupied five and a half days earlier.

Although Orchid posed a threat to the Philippine Islands for several days, landfall was not made on any of the islands. However, high winds and seas associated with Orchid posed a hazard to maritime interests at great distances from the center. An inter-island ferry, MV Dona Cassandra (487 tons) capsized and sank in the Suriago Strait during a transit between Butuan, Mindanao and Cebu. Of the 387 passengers and crew onboard, 167 were killed.

In addition to the loss of the Dona Cassandra, Orchid was responsible for damages to the SS Mallory Lykes. Mallory Lykes was headed west across the Philippine Sea when she passed close to Orchid's center. The 60 kt (31 m/s) winds and 24 ft (7 m) seas encountered by the ship caused two engines carried as cargo to break free of their lashings. These eight ton engines caused considerable damage to hull frames and plating as they clattered about but fortunately did not injure any personnel.